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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/840,322	04/23/2001	Long Y. Chiang	06897-006001	4062

7590

03/08/2002

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EXAMINER

DEWITTY, ROBERT M

ART UNIT

PAPER NUMBER

1616

DATE MAILED: 03/08/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/840,322

Applicant(s)

CHIANG, LONG Y.

Examiner

Robert M DeWitty

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-21 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claims 1-21 are pending in the instant application. Acknowledgement is made of Applicant's Election of Species, submitted 2/19/03.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zweig et al. (U.S. Pat. No. 4,202,323), further in view of Leonard et al. ("A Selenopyrylium Photosensitizer for Photodynamic Therapy Related in Structure..."), and Nguyen et al. ("Water-soluble Conductive Electroactive Polymers").

Zweig relates to drug activation within a living body brought about by administration of drug, followed by radiation capable of causing cleavage within the drug. The resulting ions then act to sensitize the localized area to radiation (Abstract). Zweig teaches that it would be beneficial to introduce a substance into the body which would be distributed throughout the tissues without causing ill effects, and, upon irradiation, would break down to yield highly reactive end products to potentiate the effect of the radiation (col. 1, lines 30-36). The material employed by Zweig structurally consists of a cyanide moiety bound to a methane wherein three hydrogens are substituted by aniline groups (col. 4, lines 28-34).

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Leonard teaches that various classes of cationic dyes have been explored as sensitizers for photodynamic therapy, which is an approved protocol for treatment of cancer combining light and endogenous oxygen with a photosensitizer localized in or around the tumor (page 4488, column 1). Such dyes include blue dyes. An example of a suitable sensitizer as used by Leonard are anilines such as 4-Ethynylaniline or 4-Ethynyl-N,N-[1,2-bis(dimethylsilyl)-ethano]aniline (page 4493, column 2).

Nguyen teaches water-soluble polyanilines produced by placing sulfonic acid groups onto nitrogen atoms (which are attached to the polyaniline). It is taught that the aqueous solutions of the anilines exhibit electroactive behavior and have an electrochemical response resembling that of the polyaniline.

Based on the teachings in the art, one with ordinary skill would have been aware of treating tumors by applying an aniline compound followed by irradiating such compound. Motivation to do such would have arisen because of knowledge that aniline compounds are known to be useful as sensitizers in photodynamic therapy. Motivation to use specific substituents such as sulfonic acid would have arisen because of a desire to solubilize the aniline compound (prior to administering it to a patient). Further, one with ordinary skill in the art would have known that various different groups would have been suitable to add to the aniline compound. As Applicant has not shown any criticality of the addition of "B-CH₂" to the aniline compound, it is understood that such substituent is merely an optimization of the instant invention.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert M DeWitty whose telephone number is 703-308-2411. The examiner can normally be reached on 9:00am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jose Dees can be reached on 703-308-4527. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7924 for regular communications and 703-308-7924 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1235.

RMD
March 6, 2002



NEIL S. LEVY
PRIMARY EXAMINER